CLAIMS:

(amended November 2, 1999)

1. Use of peptides obtainable by

- adding proteases to cow's milk or human milk, followed by incubation for two hours;
- centrifugation to remove milk fat;
- acidification to a pH of 2.0 with strong acids;
- removing the precipitated proteins;
- application of at least one reverse phase HPLC step;
- application of a cation-exchange HPLC step;
- collecting fractions;
- adjusting the fractions to a salt content of < 25 mM by dialysis or reverse phase HPLC for performing activity tests;
- culturing *Bifidobacterium bifidum* and *E. coli* in the presence of the fractions and selecting fractions which meet the requirement:

$$\frac{BW}{B0} - \frac{EW}{E0} \geq 0.15 \text{ (bifidogenic)}$$

wherein BW represents the germ count obtained upon 16 hours of incubation of *Bifidobacterium bifidum* in 50% Elliker broth in the presence of the peptides in a concentration of 200 µg/ml;

B0 represents the germ count obtained in the control incubation without active substances;

EW represents the germ count obtained upon 16 hours of incubation of *E. coli* in 3 g/l tryptic soy broth in the presence of the peptides in a concentration of 200 µg/ml;

E0 represents the germ count obtained in the control incubation without active substances;

- isolation of the peptide contained in this fraction;

and of the amidated, acetylated, sulfated, phosphorylated, glycosylated, oxidized derivatives or fragments thereof having bifidogenic properties, and of peptides obtainable by the combination of the peptides, fragments or derivatives by chemical bonding, for the preparation of a medicament for the treatment of diseases caused by misplaced microbial colonizations, for example, by bacteria, fungi, yeasts, protists, viruses, mycoplasmas, filariae, plasmodiums, such as infections, inflammations, microbially induced tumors, microbially caused degenerative diseases, diarrheic diseases, colics, deviations in the oral, intestinal and vaginal floras, caries.

2. The use according to claim 1 wherein peptides are used having the amino acid sequence:

R_1-EQLLRLKK-R_2, R_1-YLEQLLRLKKY-R_2, R_1-NRQRNILR-R_2,
R_1-YMNGMNRQRNILR-R_2, R_1-FQWQRNMRK-R_2, R_1-HTGLRRTA-R_2,
R_1-FTAIQNLRK-R_2, R_1-EVAARARVVW-R_2, R_1-WQRNMRKV-R_2,
R_1-LARTLKRLK-R_2, R_1-YKQKVEKV-R_2, R_1-LVRYTKKV-R_2,
R_1-KYLYEIARR-R_2, R_1-ARRARVVWCAVG-R_2, R_1-ARRARVVWCAVGE-R_2,
R_3-CIAL-R_4 R_3-CIAL-R_4

R_1-YQRRPAIAINNPYVPRTYYANPAVVRPHAQIPQRQYLPNSHPPTVVRRPNLHPSF-R_2,
R_1-GRRRRSVQWCTVSQPEATKCFQWQRNMRRVRGPPVSCIKRDSPIQCIQA-R_2,
R_1-GRRRSVQWCAVSQPEATKCFQWQRNMRKVRGPPVSCIKRDSPIQCIQA-R_2,
R_1-GRRRRSVQWCAVSQPEATKCFQWQRNMRKVRGPPVSCIKRDSPIQCIQA-R_2,
R_1-VYQHQKAMPKPWIQPKTKVIPYVRYL-R_2, R_1-ARRARVVWAAVG-R_2,
R_1-CAVGGGCIAL-R_2,
R_1-RHTRKYWCRQGARGGCITL-R_2.

wherein

R_1, R_3 independently represent NH_2, an amino acid or a peptide containing up to 100 amino acids; and

R_2, R_4 independently represent COOH, $CONH_2$, an amino acid or a peptide containing up to 100 amino acids;

and the amidated, acetylated, sulfated, phosphorylated, glycosylated, oxidized derivatives or fragments thereof having bifidogenic properties.

3. Use of nucleic acids coding for the peptides mentioned in claim 1 and/or 2 for the preparation of a medicament for the treatment of diseases caused by misplaced microbial colonizations, for example, by bacteria, fungi, yeasts, protists, viruses, mycoplasmas, filariae, plasmodiums, such as infections, inflammations, microbially induced tu-

mors, microbially caused degenerative diseases, diarrheic diseases, colics, deviations in the oral, intestinal and vaginal floras, caries.

4. Peptides having the SEQ ID Nos. 10, 22 and 23 for the use according to claim 1.